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US BLOCKADE FORCES CHINA TO SEARCH FOR SUBSTITUTES

/Numbers in parentheses refer to appended sources./

Introduction

Since the summer of 1950, the US has been conducting an increasingly tight economic blockade against the import-export trade of the People's Republic of China. As a result, many types of vital industrial raw materials and equipment are no longer easily accessible to China in foreign markets.(1) This restraint on China's overseas trading transactions has forced the development and expansion of her domestic industries and made her increasingly dependent on Soviet technical and economic support.(2)

During 1950 - 1951, the USSR has supplied China with technical assistance in the planning, production, and maintenance of many types of construction machinery, farm implements, mining equipment, and precision instruments, which were formerly imported from abroad. The USSR has exported to China locomotives, railroad cars, rails, agricultural machinery, production equipment, precision instruments, chemicals, and other industrial raw materials. In addition, trade agreements concluded between China and Czechoslovakia, Germany, Poland, and Hungary have also provided China with a source of supply of heavy machinery and precision instrument.(3)

The blockade has greatly restricted China's import of petroleum and chemical products and has been particularly detrimental to her output of finished goods.(1) It has compelled Chinese industrial producers to attempt the manufacture of substitutes for products which heretofore had been imported.(2) The varying degrees of success which have been achieved thus far are listed in the following report.

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Industrial Chemicals

Shanghai is now producing more than 300 different types of chemical products, which reportedly possess a high degree of purity and can be used for manufacturing drugs as well as for conducting industrial tests and experiments. These 300 chemical products amount to almost one third of the total number of chemicals which were formerly imported.

In Shanghai, there are now 26 chemical plants which are producing 4,400 metric tons of liquid caustic soda a month. In addition, the Yung-li Chemical Industries is maintaining an average monthly output of 500 to 900 metric tons of solid caustic soda. These plants, together with caustic soda plants in the Northeast, are expected to satisfy domestic needs for this chemical.(4)

The China Bismuth Products Factory in Shanghai has raised the quality of its lithopone, bismuth chloride, and bismuth carbonate to meet international standards. The Cheng-I and Min Heng factories have succeeded in making sodium hyposulfite, which is indispensable to China's dyeing and printing industry.(5)

A chemical plant in Tientsin has succeeded in manufacturing dinitrophenol to act as a substitute for dinitrochlorobenzene, which is used in the manufacture of sulfur black.(6)

Chemical factories in Shanghai and Nanking produced the following industrial chemicals during 1950: insulating shellac, water-softening chemicals, barium compounds, camphor products and many types of insecticides.(1)

Pharamaceuticals

The Chinese Pharmaceutical Industry has been obliged to undertake the manufacture of drugs previously obtained from the US. Shanghai chemical plants have begun the preparation of compounds used in the manufacture of antitubercular vaccine BCG and an antidiphtheria serum.

BCG is produced from a vegetable alkali previously obtained from asparagus grown in the US. After 6 months of experimentation, the I-Shen chemical laboratory found that soybeans could be used as a substitute for asparagus. A substitute for antidiphtheria serum has also been discovered.(1)

The Shanghai People's Pharmaceutical Company has begun producing penicillin on a big scale since the curtailment of penicillin imported from the US. The manufacture of penicillin by Chinese chemists was effected by the technical staff of the Penicillin Testing Department of the East China People's Drug Company.(7)

In the course of experimentation, chemical analysts selected bacteria of the olive-shaped Q176 type. Since China is not producing refined corn syrup, which is the principal culture base of foreign-made penicillin, cottonseed cakes, lactose, and glucose are being used as substitutes. The method of "heavy juice" culture is being used to produce the incubated solution containing the penicillin which is refined and crystalized into the final product, and reportedly meets international specifications.(8)

Petroleum Products

Chemical plants No 1 and No 2 in Kirin are now producing transformer oil from shale-oil petroleum. This oil has been used as a substitute for transformer oil which was formerly obtained from the US. However, its specifications are still not up to international standards.(9)

In Shanghai, petroleum technicians have developed a vegetable oil mixture which can replace Texaco SAE-30 lubricating oil. The formula is as follows: 50 percent castor oil, 40 percent cottonseed oil, and 10 percent Soviet lubricating oil No 18. (10)

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Shipments of kerosene from Fu-shun arrived in Nanking during March to supplement the depleted stocks resulting from effects of the blockade. The wholesale price of kerosene was 2.6 million yuan per 53-gallon drum.(11)

Machine Tools

More than 1,000 machine-building and machinery repair shops have been rebuilt and reopened in Shanghai. These plants are now providing China's textile industry with spindles and looms, the mining and transport industries with cranes and steam turbines, the paper industry with many types of technical machinery, and the Chinese farmer with farming equipment, pumps, and generators. The majority of these machines were formerly imported from abroad.(12)

A machinist in a Hunan machine plant invented a machine tool which can be used to manufacture hexagonal screw caps used on water pumps and machine tools. Production capacity of this machine tool is twice as high as that of chiseling machines.

A technician in the Hsiang-tan Electrical Equipment Plant invented a machine tool which can be used to cut threads on screws. This tool is capable of treating 600 screws an hour, which is more than seven times the level attained by ordinary machine tools.(13)

Technicians in plant No 13 of the Northeast Machinery Industry Administration produced an aluminum oxide abrasive which was formerly imported from abroad. Emery wheels produced from this abrasive are reportedly of good quality. (14)

The blockade has deprived private iron and steel rolling factories in Shanghai of imports of raw materials which are essential to the operation of these plants. They are now relying on steel ingots and other materials produced in An-shan. These materials are allotted them by the East China Department of Industry for the fulfillment of government orders only. Due to differences in equipment and factory management, some of these factories have been operating at a loss and some at a profit.(15)

The Chekiang Provincial Board of Industry amalgamated three state-controlled machine works into the Chekiang Iron Manufacturing Works in August 1950. Because of the blockade, production has increased and now includes internal-combustion engines, silk textile machinery, tea-processing machines, farm implements, water pumps, fiber-processing machines, and precision instruments.(16)

Soviet technicians and engineers have been instrumental in increasing the total output and the production rate in many Chinese machine-building plants throughout the Northeast and East China. During 1950, machinery plants in the Northeast increased their production rate by 12 to 30 times, as a result of technical assistance rendered by four groups of Soviet advisors. These groups demonstrated high-speed metal-cutting methods which are now being advanced in the USSR.(17)

In Shanghai, a machinery plant recently manufactured its first ventilator for use in mines. Ventilators used in Chinese mines have hitherto been imported. The No 1 plant of the East China Telecommunications Supply Bureau is now manufacturing telegraph paper tapes and carbon grains for use in telephone receivers. Both of these items were formerly imported.(5)

Industrial Raw Materials

The annual output of crude resin in Kwangtung is about 160,000 piculs [one picul equals 133 pounds]. During 1950, the production of refined resin increased by 40,000 piculs. Its quality is reportedly comparable with the best resin

produced in the US, i.e., N grade.(19) During 1951, a total of 33 resin factories have been established in Kwangtung to insure a steady increase in the production of this industrial material.(20)

In Tientsin, a group of Soviet technical experts have succeeded in making paper, using straw only, in one of the state-operated paper mills. These technicians found that paper made of 50 percent straw and 50 percent wood pulp is of even better quality. They also learned that high-grade newsprint can be produced from straw and a small quantity of wood pulp.(21)

In Mukden, a paper mill recently succeeded in using an acid base in the manufacture of paper pulp, thus lowering the production cost of paper cement bags. This has proved to be a more efficient and cheaper method than the former method of using soda, which used 65 percent wood pulp and 35 percent hemp pulp.(22)

In Shanghai, several paper mills have succeeded in manufacturing wood and bamboo pulp from the stems of cotton plants, and from rice and bamboo stalks. This has relieved the shortage of raw materials used in the production of paper. The bamboo pulp has proven to be satisfactory, but the wood pulp requires further improvement because paper made from this pulp has a yellowish tinge.(23)

In April 1951, 71 metal-printing and can-manufacturing plants were operating in Shanghai. However, the principal raw material used by these establishments is tin plate, imports of which were 401,700 kilograms in 1936 and 66,255 kilograms in 1949. The blockade has forced this branch of industry to use other metals and reclaimed tin obtained from used cans.(24)

In Shanghai, there are now 16 canvas factories and 45 glass-making plants. The average monthly output for the former is 530,000 yards of canvas; and for the latter, 3,000 tons of glass in the form of glassware and electric bulbs.(25) There are also 20 asbestos factories in Shanghai, which is the center of China's asbestos industry. These factories normally consume about 100,000 kilograms of asbestos a month in the manufacture of asbestos products.(26)

In the textile industry, a cowhide shortage has affected leather supplies both for the army and for civilian use. Tanneries in Peiping, Tientsin, Shanghai, Hankow, and Canton were urged to utilize pigskin as a substitute for cowhide. In Chungking, the number of cowhides tanned decreased from 110,000 in 1931 to less than 30,000 in 1950. However, this number is expected to be increased to 80,000 in 1951. The use of pigskins has been increasing, and they are being substituted for about one million cowhides.(27)

All government and privately operated textile factories and print-dye factories were closed temporarily from 6 June to 21 July 1951 because of an insufficient supply of cotton. This course of action was adopted despite the fact that 1950 cotton production was double that of 1949.(28)

In Tientsin, all casing plants have received orders from the state-controlled North China Animal Products Company for a total of 550,800 hog casings and 151,000 sheep casings. These orders were granted to keep the plants open, since the blockade has shut off orders from abroad.(29)

Miscellaneous

The following list includes many goods and items which were formerly imported but which are now produced in China:

1. Photographic paper and various types of photographic eqipment (30)
2. Mica films (31)
3. Standardized mechanical drawing instruments

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4. Milling sieves
5. Insulating tape, silks, cloth, and partition boards
6. Ignition coils
7. Dyestuffs and radio tubes (1)
8. 12-horsepower diesel engines (burning coal gas as well as fuel oil)
9. Cranes with ratings from 20 to 100 horsepower
10. Cast steel railroad car wheels
11. Nickel, chromium, and molybdenum steel alloys
12. High-carbon steel for springs and tools
13. High-manganese steel for railroad tracks
14. Graphite electrodes for use in electric steel smelting furnaces
15. 4,000-kva transformers
16. 3,300-volt motors with rating of 350 horsepower
17. 6,600-volt rubber-insulated and aluminum-incased power cables
18. 0.3- to 0.15-centimeter-diameter varnished wires
19. 101F and 104F vacuum tubes for use in telephones
20. 1,000-watt focused bulbs
21. 866/866A and 872 electron tubes for adjusting current
22. 300-watt and 750-watt bulbs for showing motion pictures
23. Condensers for telephones
24. 1,500-watt wireless telegraph and telephone transmitters
25. 5,000-watt broadcasters, 34,500-volt porcelain insulating tubes
26. High-frequency porcelain insulators
27. Miscellaneous production equipment produced by small handicraft establishments (31)

SOURCES

1. Shanghai, Novaya Zhizn', 18 Apr 51
2. Riga, Sovetskaya Latviya, 28 Jun 51
3. Baku, Bakinskiy Rabochiy, 29 Jun 51
4. Shanghai, Novaya Zhizn', 18 Mar 51
5. Shanghai, Chieh-fang Jih-pao, 17 Apr 51
6. Tientsin, Chin-pu Jih-pao, 30 Mar 51
7. Shanghai, Novaya Zhizn', 30 May 51
8. Shanghai, Hsin-wen Jih-pao, 29 May 51
9. Shanghai, Ta Kung Pao, 26 May 51
10. Shanghai, Novaya Zhizn', 25 Mar 51
11. Ibid., 23 Mar 51
12. Ibid., 8 May 51
13. Hankow, Ch'ang-chiang Jih-pao, 3 Mar 51
14. Tientsin, Chin-pu Jih-pao, 18 Mar 51
15. Shanghai, Ta Kung Pao, 18 Jun 51
16. Ibid., 16 May 51
17. Shanghai, Novaya Zhizn', 17 May 51
18. Shanghai, Ta Kung Pao, 10 Apr 51
19. Canton, Nan-fang Jih-pao, 8 May 51
20. Shanghai, Ta Kung Pao, 21 Mar 51
21. Peiping, Jen-min Jih-pao, 29 May 51
22. Shanghai, Ta Kung Pao, 12 Mar 51
23. Shanghai, Novaya Zhizn', 14 May 51
24. Ibid., 16 Apr 51
25. Ibid., 5 Mar 51
26. Shanghai, Ta Kung Pao, 26 Feb 51
27. Shanghai, Novaya Zhizn', 31 May 51
28. Tientsin, Chin-pu Jih-pao, 6 Jun 51
29. Shanghai, Novaya Zhizn', 5 Apr 51
30. Shanghai, Chieh-fang Jih-pao, 29 May 51
31. Shanghai, Novaya Zhizn', 19 Apr 51

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